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2001 Place-to-Place Price Comparison Survey for Selected Alberta Communities

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2001 PLACE-TO-PLACE PRICE COMPARISON SURVEY FOR SELECTED ALBERTA COMMUNITIES

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INTRODUCTION

The following report represents the results of the 2001 Place-to-Place Price Comparison Survey sponsored by Alberta Economic Development with supplementary funding provided by ATCO Gas and ATCO Electric.

The survey examines ten communities identified by project sponsors and provides a comparison of price levels within these communities to those in Edmonton for a common basket of goods and services consisting of approximately 266 items. The data collection period for the survey occurred over four days from April 18 to 21, 2001. This survey was last undertaken in 1991.

Communities and Indices

Using the Edmonton survey results as a base (Edmonton=100), indices were developed to compare the following communities:

Calgary	Canmore	Fort McMurray
Grande Prairie	High Level	Jasper
Lethbridge	Medicine Hat	Red Deer

In regards to Fort McMurray, prices were gathered for the urban centre whereas population statistics provided in this report are for the Regional Municipality of Wood Buffalo.

The following sections introduce the concept of price indices and how these indices relate to the data presented, outline the survey design that was employed for this study, and provide an analysis of the Edmonton-based comparison. A methodology section and a detailed list of categories are presented at the conclusion of this report.

BACKGROUND

Introduction

Several methods of developing price indices exist. However many are inappropriate for a survey of this nature. The following section provides a brief background describing the "aggregate" or "complex" price index employed in this survey.

Spatial Price Indices

A price index is a ratio of two numbers: a comparative price and the base price to which it is compared. Indices are tools to measure the differences in one price relative to the other and may be constructed to measure price differences for individual commodities, for a basket of goods, or for a group of commodities. An index that measures differences in individual commodities is referred to as a "price relative" or a "simple price index" whereas an index that measures differences between a group/basket of goods generally represents an "aggregate" or "complex" price index.

The value of the base is generally set at 100 with all other prices expressed in terms of this base. An index with a value greater than 100 indicates that prices are higher than the base price or vice versa and allows for comparison and interpretation in percentage terms. For example, an index of 120 indicates a twenty-per cent difference between the base point and the index value; inferring that prices are twenty per cent higher than the reference base. An index of 90 would signify prices are ten per cent lower.

There are several different types of price index measurements. The price index produced for this publication is a **spatial price index**, which is location-based and compares the prices of one or more commodities between various locations at a **specific point in time**. Spatial indices can be developed to produce comparisons between one reference location and several communities and can be constructed to measure price differences between any two communities. For the purpose of this survey, only comparisons with one reference location (Edmonton) and several communities can be made. Since a spatial index does not measure

price movements over time but measures price differences between communities, the price levels of the various comparison communities are always collected at one point in time in order to remove any time-related biases.

Summary

For this spatial survey, aggregate or complex price indices are used. A detailed explanation of the survey methodology is provided in Appendix A.

SURVEY DESIGN

Overview

The purpose of the 2001 Place-to-Place Price Comparison Survey is to measure price differences between selected Alberta communities and the base of Edmonton for a specific basket of goods and services at a specific point in time. The price differentials are measured through the construction of spatial price indices for the selected survey communities.

In order to construct a spatial price index, certain steps must be taken:

1. The survey communities must be chosen;
2. A basket of goods and services to be surveyed must be selected; and
3. The prices of these goods and services must be collected during a specified time period in each centre/community.

Once these steps are completed, the price indices can then be constructed.

The 2001 survey included the following ten locations:

Edmonton	Calgary	Canmore
Fort McMurray	Grande Prairie	High Level
Jasper	Lethbridge	Medicine Hat
Red Deer		

The goods and services used for this survey are similar to the survey items used by Statistics Canada to construct monthly Consumer Price Indices for Alberta cities such as Edmonton and Calgary. A total of 266 goods and services form a subset of Statistic Canada's basket of survey items and were selected based on the following criteria:

1. The items comprise those goods and services perceived as regularly purchased by Alberta consumers living in cities, small and medium-sized towns.

2. The items are judged to be available in all selected communities, allowing for price comparability across all ten communities.

Each item is associated with a retail price such that a sum of money must be paid by a consumer in order to purchase a specific quantity and quality of a good or service.

With the survey locations and a basket of goods and services selected, a pricing period is then established. For this survey, April 18 to 21, 2001 was chosen for the data collection period. During this four-day period, survey pricers familiar with each community collected prices for the 266-item basket in all ten survey locations.

From the survey data collected, indices for each community are then constructed.

The Edmonton-based indices are created from a 266-item segment of the February 2001 Statistics Canada basket of goods and services outlined in Appendix B. Several items on the CPI list were excluded due to the lack of availability or comparability of these items in some of the survey locations. For each survey community, a total of twenty aggregates are produced which include three aggregate and seventeen sub-aggregate indices, outlined in Tables 1 through 4.

The aggregate indices constructed for each survey community include:

1. An all-commodity index (up to 266 items);
2. A food index (up to 119 items);
3. A non-food index (up to 147 items); and
4. A commodity category index (up to 40 items).

Seventeen category-specific indices form subsets of the aggregate food and non-food indices. The specific food indices are:

Dairy Products
Cereals and Breads
Fresh Fruit and Vegetables
Frozen and Packaged Food
Fats and Oils
Processed Fruits and Vegetables
Meat, Fish, Poultry and Substitutes
Restaurant Meals

The non-food indices include:

Personal Care Products
Household Services
Recreation and Leisure
Clothing
Utilities
Household Supplies
Household Equipment
Transportation
Shelter

Weighting Factors

Weights have been assigned to each of the items in the basket of goods and services used for this survey. The purpose of the weights is to reflect the relative "importance" of each item to the consumer. By assigning weights according to the relative importance of a good, costly but seldom purchased items are prevented from exerting undue influence on the index.

As previously indicated, the 266-item basket used in the Edmonton-based comparison is a subset of the basket used by Statistics Canada that determines monthly Consumer Price Index (CPI) for Edmonton and Calgary. The Statistics Canada basket is based on the expenditures of a target population in a certain reference period with weights derived from 1996 Family Expenditure Survey data. As such, the basket for the 2001 Place-to-Place Price Comparison Survey is weighted according to the CPI expenditure weights for Alberta and accounts for 74.15 per cent of the CPI in terms of item weights. Further details on weighting methods are presented in Appendix A.

Cautionary Notes

The reader should note that when using the indices in this publication, the following assumptions and limitations should be kept in mind:

1. The purpose of this survey is to produce spatial price indices that compare price levels in selected communities to those in Edmonton at a specific point in time. The indices constructed for this publication cannot be compared over time to determine price changes.
2. The expenditure weights of the 266-item basket of goods and services are based on 1996 Statistic Canada's Family Expenditure Survey weighting pattern for Alberta. Since expenditure weighting patterns are unavailable for other survey communities, they are assumed to be the same as those used for Alberta. It is probable that in communities outside Edmonton, consumption and expenditure weighting patterns differ through the influence of local factors such as customs, tastes, incomes and product availability.
3. The 2001 Place-to-Place Price Comparison Survey does not produce cost-of-living indices for the ten selected communities. The present methodology employed does not incorporate many of the variables necessary to construct such an index. A cost-of-living index requires complete information about a person's tastes and consuming habits and measures price changes that are experienced by consumers in maintaining a constant standard of living. In this situation, consumers would normally switch between products as the price relationship of goods changes and may choose the cheaper of the interchangeable products. The 2001 Place-to-Place Price Comparison Survey utilizes a fixed basket of goods and services to derive the price indices.

ANALYSIS OF EDMONTON-BASED COMPARISONS

The results of the 2001 Place-to-Place Price Comparison Survey are presented in Tables 1 through 4 and Figures 1, 2 and 3. For all indices, Edmonton prices serve as the reference base with each Edmonton index assigned a value of 100. All other indices reflect community prices relative to this base index. For example, communities with an index of 100 for any component category or for the total basket of goods and services experienced prices equivalent to those in Edmonton. Indices of less than 100 indicate community prices were lower than the base community while centres with indices greater than 100 recorded prices higher than in Edmonton. As a note, the number of items priced and the weighting patterns can vary between commodity categories for each community surveyed due to lack of availability and comparability of certain items in some communities.

All Commodity Indices

Table 1 and Figure 1 present the aggregate **All-Commodity Indices** for each of the ten survey communities. Included in Table 1 are the overall weighting patterns for each community and the number of items surveyed. For the 2001 survey, Medicine Hat recorded the lowest index of 96.9, the result of both low food and non-food indices. The two highest all-commodities indices were recorded for Jasper and High Level at 116.8 and 114.6 respectively. In general, six of the comparison communities show all-commodity indices higher than Edmonton and range from 104.2 to 116.8. All-commodities indices lower than Edmonton ranged from 96.9 to 99.0. The centres with higher all-commodities indices than Edmonton include Calgary, Fort McMurray, Grande Prairie, Canmore, Jasper and High Level.

Food Indices

Overall **Food Indices** are provided in both Table 2 and Figure 2 and range from 96.1 (Medicine Hat) to 111.6 (High Level). Five of the surveyed communities, which include Red Deer, Fort McMurray, Lethbridge, Jasper and High Level, had food indices greater than Edmonton. Four communities had lower food indices that were very close to Edmonton's base of 100. For the individual food component categories, the communities of Jasper and High

Level recorded higher price indices in most of these categories relative to the other communities surveyed.

Non-Food Indices

Table 3 and Figure 3 present the **Non-Food Indices** for each community. Six of the surveyed communities had higher non-food indices ranging from 105.6 (Grande Prairie) to 118.0 (Jasper). These communities include Grande Prairie, Calgary, Canmore, High Level, Fort McMurray and Jasper. Medicine Hat possessed the lowest Non-Food Index of 97.2 and had the lowest utility commodity index in comparison to other surveyed communities.

In general, the higher non-food indices may be primarily attributed to the significant influence exerted by the shelter component of the spatial price survey. While the shelter category accurately reflects the cost of housing in each community for similar structures, many qualitative aspects such as location, age of dwelling, finish may not be fully accounted for in determining real estate values for each of these communities. For this reason, caution must be exercised in generalizing trends for individual commodity categories based on the aggregate indices for the non-food component of this survey.

Commodity Category Indices

Table 4 represents a breakdown of both the food and non-food components into their seventeen sub-component commodity categories. The commodity categories that account for approximately 65 per cent of the total survey weight include shelter, food and transportation. The highest shelter index of 152.1 was reported for Fort McMurray followed by Canmore, Jasper, High Level, and Calgary at 146.0, 140.9, 123.3 and 118.8 respectively. The community of Medicine Hat possessed the lowest utilities price index of 68.2 in comparison to the other surveyed communities that ranged from 92.4 to 118.6. Although these indices are accurate, they may not adequately represent many qualitative differences.

In general, higher price indices relative to the Edmonton base of 100 were observed in most of the sub-component commodity categories. Several of the smaller rural centres such as Canmore, Jasper, High Level and Fort McMurray experienced higher price indices in comparison to larger urban communities such as Calgary.

Weighting Summary

Weighting patterns for the 2001 Place-to-Place Price Comparison Survey are summarized in Figure 4. These weight distributions closely approximate those used by Statistics Canada for its calculation of their monthly CPI. According to Statistic Canada's publication "The Consumer Price Index, June 2001," the 1996 basket weight for shelter (including utilities) is 26.8 per cent and is derived from the Family Expenditure Survey. As indicated in Figure 4, the weighting pattern for this commodity group is relatively consistent with the 2001 Place-to-Place Price Comparison Survey's findings of 23.5 for the shelter and utilities components combined.

2000 ALBERTA POPULATION BY COMMUNITY

The 2000 population for each community surveyed is as follows:

COMMUNITY	POPULATION
Edmonton	648,284
Calgary	860,749
Red Deer	65,701
Lethbridge	68,712
Medicine Hat	50,152
Fort McMurray*	51,406
Grande Prairie	35,962
Canmore	10,517
Jasper	4,691
High Level	3,093

Source: Alberta Municipal Affairs, Local Government Services

***Note:** Figure reflects population of the Regional Municipality of Wood Buffalo

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Table 1: Edmonton-Based Comparisons, All-Commodity Indices

Number of Items Surveyed, Aggregate Indices and Weighting Patterns

Selected Alberta Communities

April 2001

Community	Number of Items Surveyed*	Weighting Pattern*‡	All-Commodity Index
Edmonton**	266	73.9	100.0
Calgary	266	73.9	106.9
Red Deer	261	72.6	99.0
Lethbridge	260	73.7	98.9
Medicine Hat	263	73.9	96.9
Fort McMurray	254	71.7	112.5
Grande Prairie	261	72.6	104.2
Canmore	240	71.0	111.3
Jasper	236	65.1	116.8
High Level	240	70.1	114.6

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Table 2: Edmonton-Based Comparisons, All-Food Indices

Number of Food Items Surveyed, Aggregate Indices and Weighting Patterns
Selected Alberta Communities
April 2001

Community	Number of Items Surveyed*	Weighting Pattern*‡	Food Index
Edmonton**	119	16.4	100.0
Calgary	119	16.4	99.9
Red Deer	118	16.4	100.1
Lethbridge	119	16.4	102.8
Medicine Hat	119	16.4	96.1
Fort McMurray	119	16.4	100.7
Grande Prairie	119	16.4	99.2
Canmore	118	16.4	99.6
Jasper	117	16.4	113.3
High Level	119	16.4	111.6

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Table 3: Edmonton-Based Comparisons, All Non-Food Indices

Number of Items Surveyed, Aggregate Indices and Weighting Patterns

Selected Alberta Communities

April 2001

Community	Number of Items Surveyed*	Weighting Pattern*‡	Non-Food Index
Edmonton**	147	57.5	100.0
Calgary	147	57.5	108.9
Red Deer	143	56.2	98.7
Lethbridge	141	57.3	97.8
Medicine Hat	144	57.5	97.2
Fort McMurray	135	55.3	116.0
Grande Prairie	142	56.2	105.6
Canmore	122	54.6	114.9
Jasper	119	48.7	118.0
High Level	121	53.7	115.5

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Table 4: Edmonton-Based Comparisons, Commodity Category Indices

Number of Food Items Surveyed*‡, Aggregate Indices
Selected Alberta Communities
April 2001

Community	Dairy		Fats & Oils		Cereals & Breads		Processed Fruits & Vegetables	
	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items
Edmonton**	100.0	14	100.0	3	100.0	16	100.0	16
Calgary	101.0	14	95.3	3	102.1	16	92.6	16
Red Deer	100.1	13	97.5	3	102.8	16	99.7	16
Lethbridge	107.9	14	105.0	3	104.3	16	99.7	16
Medicine Hat	100.1	14	103.0	3	96.3	16	99.3	16
Fort McMurray	95.7	14	104.1	3	100.5	16	99.7	16
Grande Prairie	100.5	14	102.8	3	110.4	16	95.0	16
Canmore	106.5	13	107.2	3	94.7	16	91.9	16
Jasper	116.1	14	118.5	3	115.5	15	110.9	16
High Level	121.3	14	119.9	3	130.3	16	117.1	16

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Edmonton-Based Comparisons Commodity Category Indices

Number of Food Items Surveyed*‡, Aggregate Indices
Selected Alberta Communities
April 2001

Community	Fresh Fruit & Vegetables		Meat, Fish, Poultry & Substitutes		Frozen & Packaged Foods		Restaurant Meals	
	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items
Edmonton**	100.0	10	100.0	26	100.0	29	100.0	5
Calgary	109.2	10	99.0	26	96.8	29	98.9	5
Red Deer	102.5	10	100.5	26	100.6	29	97.7	5
Lethbridge	100.1	10	100.8	26	105.7	29	101.1	5
Medicine Hat	94.3	10	98.3	26	99.4	29	90.5	5
Fort McMurray	95.9	10	100.4	26	100.8	29	104.9	5
Grande Prairie	100.5	10	99.1	26	96.9	29	95.5	5
Canmore	105.1	10	99.6	26	103.9	29	94.8	5
Jasper	112.1	10	98.7	25	124.7	29	115.7	5
High Level	111.8	10	97.5	26	119.4	29	104.2	5

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Edmonton-Based Comparisons Commodity Category Indices

Number of Non-Food Items Surveyed*‡, Aggregate Indices

Selected Alberta Communities

April 2001

Community	Personal Care Products		Household Supplies		Household Services		Household Equipment	
	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items
Edmonton**	100.0	21	100.0	20	100.0	6	100.0	13
Calgary	109.4	21	103.7	20	118.5	6	95.9	13
Red Deer	99.5	21	104.7	20	87.3	6	99.8	13
Lethbridge	97.9	21	101.0	20	95.1	6	98.4	10
Medicine Hat	101.9	21	106.0	20	94.8	6	102.7	11
Fort McMurray	96.8	21	101.1	20	105.8	5	94.3	10
Grande Prairie	102.1	21	97.6	20	99.3	6	92.0	10
Canmore	115.8	21	109.1	20	114.4	6	113.1	6
Jasper	128.5	21	113.0	20	85.5	4	98.9	8
High Level	125.4	21	117.3	20	109.5	4	109.4	8

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

Edmonton-Based Comparisons Commodity Category Indices

Number of Non-Food Items Surveyed*‡, Aggregate Indices

Selected Alberta Communities

April 2001

Community	Recreation & Leisure		Transportation		Clothing		Shelter		Utilities	
	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items	Index	No. Of Items
Edmonton**	100.0	26	100.0	14	100.0	40	100.0	4	100.0	3
Calgary	104.4	26	105.8	14	102.6	40	118.8	4	106.6	3
Red Deer	96.4	25	104.6	14	100.3	37	93.8	4	92.4	3
Lethbridge	99.9	25	100.9	14	98.9	38	90.7	4	103.8	3
Medicine Hat	107.7	26	96.2	14	99.9	39	95.1	4	68.2	3
Fort McMurray	108.7	23	103.0	13	100.0	36	152.1	4	114.0	3
Grande Prairie	99.8	25	108.5	14	110.6	39	104.5	4	120.0	3
Canmore	111.3	24	96.9	12	106.7	26	146.0	4	96.3	3
Jasper	111.1	25	106.7	9	98.5	25	140.9	4	107.5	3
High Level	117.3	25	108.3	12	104.0	24	123.3	4	118.6	3

* Variations in the weighting pattern and number of items surveyed arise due to the lack of availability and comparability of certain items in some communities.

‡ Aggregate weights may be slightly distorted due to rounding.

** Edmonton = 100

LIST OF FIGURES

Figure 1: All Commodity Indices By Location

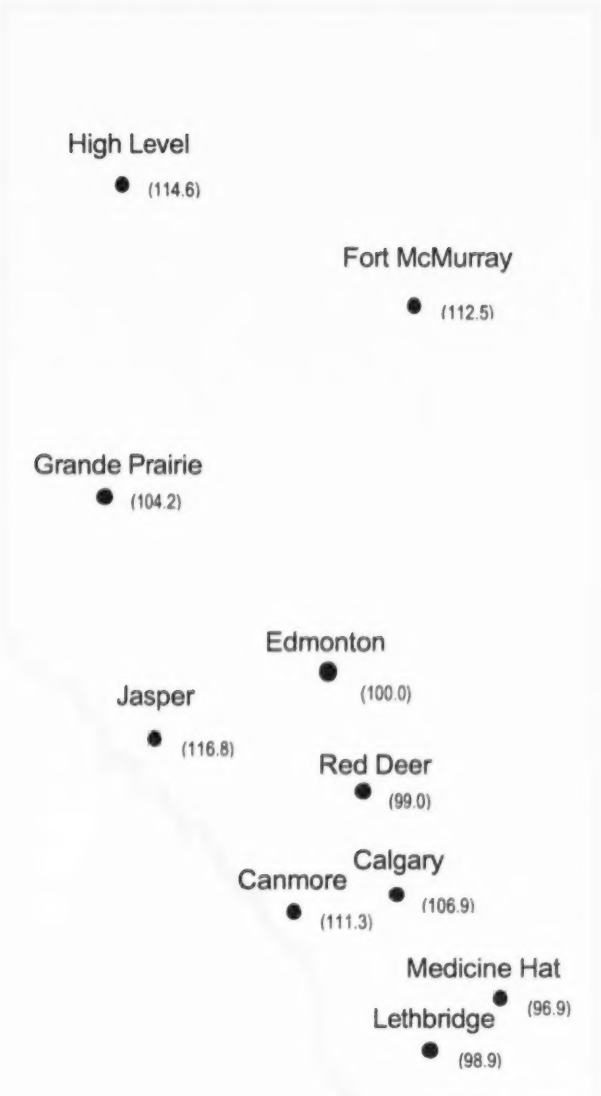
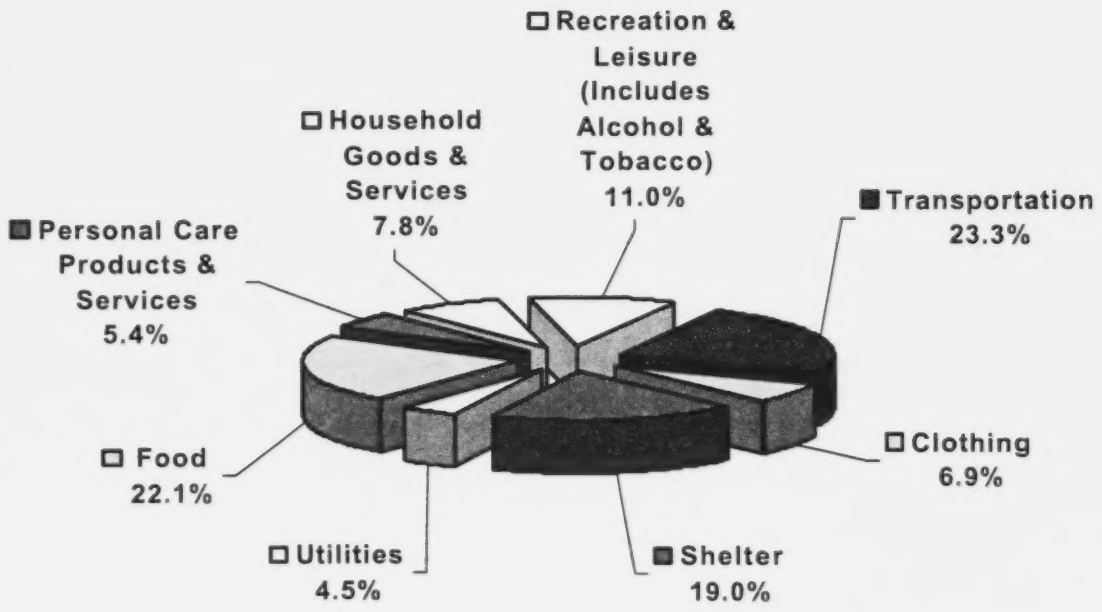


Figure 2: All-Food Indices By Location

Figure 3: All Non-Food Indices By Location

Figure 4: Per Cent Allocation Of Weights – April 2001



APPENDIX A: METHODOLOGY

Price Collection

Employees of Alberta Finance – Statistics surveyed items through personal visits to retail and service establishments in each survey community. Where possible, staff were hired from each of the local communities to conduct the pricing. To ensure a representative sample of prices, survey personnel collected a minimum of three prices per item in each community. Pricers were asked to disregard special or sale prices on items and to record only regular prices without GST in order to reduce spurious price differences. To minimize time-related biases, prices in all centres were collected within a four-day period from April 18 to 21, 2001.

Matching of Items

To ensure accuracy and consistency in the pricing of the 266-item basket of goods and services in the ten survey locations, it was essential that all the items be carefully matched across all communities. In order to facilitate this process, pricers were provided with specification sheets containing a detailed description of each article to be priced, including brand name, quantity and size. If the specified brand was unavailable, a list of alternatives was also provided. Survey personnel were asked to price one of the specified brands and record other details such as size and style number.

If none of the specified brands were available, pricers were asked to price a close substitute and provide a detailed description of the item. This substitute item was then priced in Edmonton to ensure comparability between the two communities. In this manner, item consistency was assured between Edmonton and each community but could differ among communities for some articles. If a reasonable substitute was unavailable in some communities, these articles were excluded from the survey list for those particular centres.

Special Pricing Procedures

Some items of the 266-item basket could not be directly priced in the field through retail or service outlets of the survey communities. Items which required special pricing procedures included: monthly housing payments, rental costs, property taxes, and utilities such as natural gas, electricity, water, garbage disposal and sewage charges.

Calculating monthly housing payments and mortgage interest costs for each community required several steps. Housing prices were first collected in each community for an average sized Multiple Listed Services (MLS) single detached residential dwelling consisting of a 110 square meter bungalow, an average sized bt, 11/2 baths, three bedrooms, undeveloped basement and single detached garage. Alberta Municipal Affairs, Canada Mortgage and Housing Corporation, Royal LePage Survey of Canadian House Prices, and local real estate boards or agencies provided housing prices for each community. A survey of the average mortgage down payment and mortgage rates for a one-, three- and five-year term as of April 2001 was conducted. The mortgage rates were blended to calculate an average mortgage interest of 7.108 per cent as of April 2001. This rate was then applied in combination with a five per cent down payment and 25-year amortization period to determine mortgage interest costs for each community. Average monthly rental costs for each location were obtained through a survey and supported with statistics gathered by Alberta Municipal Affairs.

To derive the average monthly property tax bill in each survey community for April 2001, Alberta Municipal Affairs and local/municipal government offices provided residential mill rates for each community. Residential mill rates were applied to the average housing price surveyed in each community to derive an average monthly tax bill.

In order to calculate monthly natural gas, electricity, water, sewage and garbage disposal charges per household in each of the survey communities, an average monthly household consumption figure was obtained for each item from local/municipal

government offices and/or suppliers of each of these utilities. The consumption figure was then multiplied by the applicable rates to derive typical household costs in each community. Utility suppliers provided delivery charges, consumption charges, administration or billing charges, municipal franchise fees, and rebates that were applied to each location where applicable.

Weighting Indices

Price indices can be either weighted or not weighted. The disadvantage of "unweighted" price indices is that their relative importance to the consumer is not taken into consideration therefore equal weight or "importance" is assigned to all goods and their prices. By assigning equal weight to various goods, a distortion of the index can be created. For example, a change in the price of milk would not carry the same significance to a consumer, as would a change in the price of meat. If these goods were given equal weight, the resulting change in the overall index would not be accurately measured in terms of their actual consumer impact.

To overcome this problem, weighted prices are used whereby goods purchased are assigned a factor that reflects their relative importance to the consumer. Each price ratio is assigned a weight in accordance with its importance. Weighted price indices are necessary in calculating a spatial price index such that without the use of these weights, large price differences among communities would occur. Commodities that are less important to consumer spending would exert undue influence on the spatial indices creating a distortion on the true magnitude of the overall price difference between communities. In order to avoid this problem, weights have been assigned to all goods and services priced in the 2001 Place-to-Place Price Comparison Survey using the weights provided by Statistics Canada for the 2001 Alberta monthly Consumer Price Index. These weights are based on Statistic Canada's 1996 Family Expenditure Survey.

Index Construction

For the purpose of this survey, an aggregate price index was generated using prices observed for 266 commodities in each of the ten communities. More complex indices are needed to capture, in a single value, several commodities per location. The most common method of simultaneously comparing several prices between different communities is to compare their averages. For example, suppose prices have been observed for three specific goods in two communities where Location A serves as the base community and Location B is the comparative community. The price of good 1 in Location A is denoted as P_{A1}, and in Location B as P_{B1}. The price ratio for good 1 would therefore be (P_{B1}/P_{A1}); for good 2: (P_{B2}/P_{A2}); and for good 3: (P_{B3}/P_{A3}).

To construct an aggregate price index that compares the average of the price ratios between communities, the price ratios are summed and then divided by the number of entries in the sum. In order to derive an aggregate index value, the average price index of the three commodities is multiplied by 100. The construction of this aggregate price index is:

Aggregate Price Index = $[(P_{B1}/P_{A1}) + (P_{B2}/P_{A2}) + (P_{B3}/P_{A3})]$/Number of Ratios x 100

An aggregate price index of 145 implies that the prices of the selected goods in Location B are 45 per cent higher than in Location A. Conversely, a price index of 97 indicates that prices are 3 per cent lower in Location B than in Location A.

Price ratios are constructed and compare each community with Edmonton. These ratios are then weighted and summed to calculate the various indices. More specifically, the process in deriving the index calculations for the 2001 Place-to-Place Price Comparison Survey is as follows:

Step 1: **Ratio of Prices**: $\frac{\text{Average Price of Item in Community A}}{\text{Average Price of Item in Edmonton}}$

Step 2: **Weighted Ratio**: Ratio of Prices x Item Weight

Step 3: **Category Index**: $\frac{\text{Sum of Weighted Ratio for a Specific Category}}{\text{Sum of Item Weights for Specific Category}} \times 100$

APPENDIX B: CATEGORIES AND ITEMS SURVEYED

Food Items

CATEGORY	WEIGHT	CATEGORY	WEIGHT
1. Dairy	1.81301	4. Processed Fruits & Vegetables	0.62048
Canned Milk		Apple Juice, Carton	
Powdered Milk		Orange Juice, Carton	
Fresh Milk		Tomato Juice, Canned	
Half & Half Cream		Apple Sauce, Canned	
Sour Cream		Pineapple, Canned	
Yogurt		Fruit Cocktail, Canned	
Processed Cheese		Peaches, Canned	
Mozzarella Cheese		Tomatoes, Canned	
Cottage Cheese		Peas, Canned	
Cheddar Cheese		Corn, Canned	
Cream Cheese		Green Beans, Canned	
Butter		Baked Beans, Canned	
Ice Cream		Raisins	
		Jam	
2. Fats & Oils	0.15988	Strawberries, Frozen	
		Orange Juice, Frozen	
Margarine			
Cooking Oil		5. Fresh Fruits & Vegetables	1.68225
Shortening			
		Oranges	
3. Cereals & Breads	1.77444	Bananas	
		Apples	
Hamburger Buns		Grapefruit	
Hot Dog Buns		Grapes	
Bran Muffins		Potatoes	
Doughnuts		Tomatoes	
Bread		Lettuce	
Hot Cereal		Carrots	
Cold Cereal		Onions	
Macaroni			
Rice			
Cake Mix			
Flour			
Cookies			
Crackers			

Food Items (continued)

CATEGORY	WEIGHT	CATEGORY	WEIGHT
6. Meat, Fish, Poultry & Other	3.28558	7. Frozen & Packaged Foods (cont.)	
Eggs Beef Stew, Canned Salmon, Canned Tuna, Canned Shrimp, Canned Oysters, Canned Peanuts Steak, Sirloin Steak, Round Roast, Standing Rib Roast, Blade Chuck Stewing Beef Hamburger Liver Bacon Sausages Wieners Ham Luncheon Meat, Sliced Pork Chops Pork Shoulder Steak Lamb Chicken Turkey Fish, Frozen		Ketchup Jelly Powder Cocoa Powder Black Pepper, Ground Baking Soda Sugar Salt Peanut Butter Honey Corn Syrup Soft Drink Potato Chips Chocolate Bar Baby Food Infant Formula Meat Pie, Frozen Cake, Frozen Potatoes, Frozen Peas, Frozen Mixed Vegetables, Frozen	
7. Frozen & Packaged Foods	2.74355	8. Restaurant Meals	4.31187
Non-Dairy Creamer Coffee, Roasted Coffee, Instant Tea Drink Crystals Spaghetti Sauce, Plain Soup, Canned Salad Dressing Pickles		Snack, Restaurant Dinner, Restaurant Breakfast, Restaurant Lunch, Restaurant Take-out Meal	

Non-food Items

CATEGORY	WEIGHT	CATEGORY	WEIGHT
9. Personal Care Products	4.02783	10. Household Supplies (cont.)	
Bar Soap		Light Bulbs	
Shampoo		Batteries	
Toothpaste		Dog Food, Canned	
Shaving Cream		Dog Food, Dry	
Razor Blades		Garbage Can	
Aftershave			
Hand Lotion		11. Household Services	1.90955
Deodorant		Shoe Repair	
Soft Contact Lens Cleaner		Plumber	
Sanitary Napkins		Tailoring	
Tampons		Coin Laundry	
Hair Color		Dry Cleaning	
Lipstick			
Disposable Diapers			
Vitamins		12. Household Equipment	1.47403
Bandages		Glass Pie Plate	
Patent Medicine		Casserole Dish	
Cold Remedy		Dinnerware	
Prescription Medicine		Cookware	
Women's Hairstyling		Flatware	
Men's Hair Cut		Coffee Maker	
10. Household Supplies	2.40279	Hand Mixer	
Facial Tissues		Microwave Oven	
Toilet Tissue		Vacuum Cleaner	
Table Napkins, Paper		Bath Towel	
Paper Towels		Bed sheets	
Dishwashing Detergent		Bedding	
Dish Soap, Liquid		Electric Drill	
Scouring Powder			
All-purpose Cleaner			
Floor Wax			
Detergent, Powder			
Bleach			
Fabric Softener			
Garbage Bags			
Food Wrap			
Aluminum Foil			

Non-food Items (continued)

CATEGORY	WEIGHT	CATEGORY	WEIGHT
13. Recreation & Leisure	8.18608	15. Clothing	5.13517
Camera		Knitting Yarn	
Camera Film		Material	
Film Processing		Raincoat, Woman's	
Compact Disc		Blazer, Woman's	
Pre-recorded Video Cassette		Suit, Woman's	
Newspaper		Jeans, Woman's	
Roses		Shirt, Woman's	
Wine, Purchased		Half Slip	
Beer, Purchased		Camisole	
Liquor, Purchased		Brassiere	
Liqueur, Purchased		Nightgown	
Cigarettes		Briefs, Woman's	
Beer, In Bar		Panty Hose	
Liquor, In Bar		Bathing Suit, Woman's	
Golf Balls		Wrist Watch, Woman's	
Board Game		Wrist Watch, Man's	
V.C.R		Wallet, Man's	
Television		Casual Shoes, Woman's	
Portable Stereo System		Dress Shoes, Woman's	
All-Terrain Bicycle		Dress Shoes, Man's	
Movie Cassette Rental		Casual Shoes, Man's	
Video Game Rental		Athletic Shoes, Man's	
		Athletic Shoes, Boy's	
		Infant's Sleeper	
14. Transportation	17.25260	Rain Jacket, Girl's	
		Jeans, Girls	
Taxi Fare		Socks, Girls	
City Bus and Subway Fare		Business Suit, Man's	
Gasoline		Dress Shirt, Man's	
Oil Change & Lubrication		Knit Shirt, Man's	
Auto Equipment – Muffler		Casual Slacks, Man's	
Motor Oil		Jeans, Man's	
New Car		Briefs, Man's	
New Truck		Dress Socks, Man's	
New Passenger Van		Sport Socks, Man's	
Tune-up		Swim Trunks, Man's	
Vehicle Tire Replacement		Jean's, Boy's	
Car Rental		Knit Shirt, Boy's	
Insurance, Auto		T-shirt, Boy's	
		Briefs, Boy's	

Non-food Items (continued)

CATEGORY	WEIGHT	CATEGORY	WEIGHT
16. Shelter	14.06410		
Insurance, Tenant's Rental Costs Mortgage Interest Property Taxes			
17. Utilities	3.31050		
Electricity Water, Sewage & Garbage Natural Gas			

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